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Career Beliefs of Adult Male Stutterers

by

Angelika Forbrich Nixdorf

A thesis submitted to the Faculty of Graduate Studies and Research
in partial fulfilment of the requirements for the degree of

Master of Science

in Speech-Language Pathology

Department of Speech Pathology and Audiology

Edmonton, Alberta

Spring 1996

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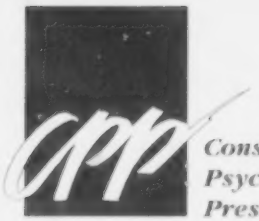

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In memory of two scholars and teachers who instilled the desire for knowledge in many students. They will live on through the works of their students.

Margarate Allenspach
(nee Lewke)
1902 - 1995

Einer Boberg
1935 - 1995

Abstract

This study investigated general and speech-related career beliefs of adult male stutterers and non-stutterers. It compared stutterers to non-stutterers and un-treated stutterers in terms of their career beliefs, and sought to determine if stutterers make career decisions based on their attitudes toward speaking and the verbal demands of occupations, rather than on general career beliefs.

Three subject groups were compared: experimental (post-treatment stutterers), control (pre-treatment stutterers), and comparison (non-stutterers). Subjects were asked to complete and return the Modified Career Beliefs Inventory, a questionnaire developed from the *Career Beliefs Inventory* (Krumboltz, 1991) to target attitudes about general and speech-related career beliefs.

Results indicated that no difference existed between the experimental group and either the control or the comparison groups in terms of their general or speech-related career beliefs. Results also indicated that experimental group members (post-treatment stutterers) did not respond in a manner indicating that speech-related career beliefs were a barrier to their employment. Limitations of this study are discussed and suggestions for future research are made.

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CHAPTER 1
INTRODUCTION

A communication disorder can be defined as "an observed disturbance in the normal speech, language or hearing process" (Palmer & Yantis, 1990, p. 3). Objective signs (those that others can observe), social signs (the effect of a communication difference on other persons in the social environment), or personal signs (how a person views his own disorder) may also be indicative of a communication disorder (Palmer & Yantis, 1990). Communication skills may be considered disordered if at least one of these signs is present.

A disorder may be an impairment, a disability or a handicap or any combination of the three. A document produced by the World Health Organization (1980) discusses definitions of impairment, disability and handicap in depth. What follows is a summary of that information as it pertains to this document. The term impairment may refer to a change in psychological, physiological, or anatomical structure or function. Disability can be understood as a diagnosable condition that limits functional ability and activity. Handicap refers to the impact of the impairment or disability on the individual and may vary with age, sex social, and cultural factors. Said differently, handicap refers to how an impairment or disability prevents the fulfilment of a role and may be influenced by a variety of factors. A handicap may be an environmental and/ or social barrier. Barriers may result from a lack of awareness that limit or prevent individuals with a disability from fully participating in those normal, everyday activities and opportunities that are expected and accepted in life. The severity of an impairment and the communication needs determined by the lifestyle of an individual partially determine the extent of a handicap (Yorkston, Beukelman, & Bell, 1988). Intuitively one can see that a

handicapping condition may manifest itself by limiting life activities, such as working and independent living.

Stuttering is a communication disorder that involves the interruption of the flow of speech by repetitions, hesitations, and prolongations (Bloodstein, 1987; Carlisle, 1985; Leung & Robson, 1990). Associated with it are speech and situational anxieties, word avoidance, low self-esteem, and additional concomitant features. The severity and manifestation of stuttering may vary considerably within and across individuals, thereby adding to the complexity of the disorder. All these factors combine to result in a reduced ability to communicate effectively. The prevalence of stuttering within the population is estimated at approximately 1% with more men stuttering than women (Andrews, Craig, Feyer, Moddinott, Howie, & Neilson, 1983; Palmer & Yantis, 1990; Wingate, 1983). The profile of the stutterer is incomplete without regard to how the stutterer fits into society, such as the interaction between stuttering and employment.

Stuttering may impinge upon effective communication in social contexts such as work and academic environments. Carlisle (1985) pointed out that the impact of stuttering on a stutterer is often downplayed, since it is not as obvious as a physical handicap. The disability resulting from stuttering involves the reduced ability to function in communication situations that require understandable, efficient, and natural sounding speech. For the purpose of this paper, stuttering will be referred to as a disability that, in some cases, may also be a handicap.

A stuttering disorder may influence the reactions of other people, who, in turn may affect the social, educational, and vocational opportunities or experiences of the stutterer. Within a predominantly verbal society in which success is often judged on verbal ability, stutterers are at a distinct disadvantage. Stuttering severity and the attitudes and biases of other individuals may prevent stutterers from participating in

certain societal roles (Yorkston, Beukelman, & Bell, 1988). Stutterers may find themselves in employment positions below their potential, or the decreased ability to communicate effectively may result in reduced promotion opportunities (Craig & Calver, 1991). Since the severity and manifestations of the disorder vary considerably and affect individuals differently depending on lifestyles and differing societal roles, this may be the case for some individuals but not others.

Work has been shown to be more than just a monetary means to the end of earning a living (Morse & Weiss, 1955). Work functions to link an individual to society and seems to provide a sense of accomplishment and a positive self-concept. In making occupational choices, individuals develop a picture of themselves in certain occupational roles, thereby developing a type of vocational self-concept. Recall, however, that input from others regarding our abilities may skew or warp self-concept and, at the very least, modify one's developing vocational identity.

Individuals with impairments and disabilities may be excluded from certain occupational choices by employers and others. Similarly, they may, themselves, limit their occupational choices in accordance with their beliefs about their own abilities and how well they stack up against the abilities necessary for successful job entry. These beliefs may function as a barrier to successful employment in certain occupations and may be referred to as *career selection barriers*. *Career selection barriers*, may result in self-selection out of certain occupations. In other words, individuals with disabilities may limit the career choices available to them based on their previous experiences and their beliefs about their own abilities and the requirements of a job. Thus, their occupational and career choices may reflect very narrow views of career viability. Assuming this is true, the occupational choices made by disabled individuals are not necessarily an

affirmation of their vocational identity. Career decisions may evolve differently for disabled than for non-disabled individuals.

The 1984 survey of Income and Program Participation found that approximately 20% of the individuals surveyed had some degree of functional limitation (Ficke, 1991). This indicates that a large proportion of the population must deal with some form of limitation or disability. In spite of this, there is surprisingly little literature available on the career beliefs, choices, and development of disabled individuals, particularly those afflicted with communication disorders such as stuttering.

There are a number of good reasons to study the career beliefs of stutterers. Stuttering may affect the ability to communicate effectively which may in turn affect stutterers' social, educational, and vocational opportunities or experiences. To determine if occupational choices of stutterers are affected by their communication disorder, studies need to be designed to systematically address this issue. To-date no studies have attempted to determine how stutterers make their career decisions. Identification of potentially career blocking beliefs in adult stutterers may help speech pathologists, career counsellors and paraprofessionals deal effectively with these beliefs to reduce their negative effects on occupational choices, employability, and employment rates.

CHAPTER 2

LITERATURE REVIEW

To determine the potential relationship between occupational choice and stuttering, relevant literature will be reviewed. An overview of social learning theory will be presented. The Social Learning Theory of Career Decision Making (Krumboltz, 1979) will be discussed with reference to how it may account for decisions made by disabled individuals. Investigations of stuttering and employment will also be examined.

Career Decision Making Theory

Social Learning Theory

To better understand the information provided in the following sections, it is necessary to begin with a brief discussion of social learning theory. Motivated by the belief that operant and classical conditioning could not capture and appreciate human learning, Bandura and others have incorporated other theories to account for human learning. A more comprehensive discussion of social learning theory can be found in the writings of Albert Bandura (1971, 1974).

A central premise of social learning theory is that humans possess cognitive abilities and are capable of cognitive mediation. Social learning theory postulates that, because humans are capable of complex cognitive abilities, they are under environmental as well as their own control. In addition, cognitive mediation enables individuals to decide among available alternatives and consequences. Reinforcement, internal or external to an individual, acts both as a motivator and as an informational source to form a framework from which individuals may interpret past experiences and anticipated events.

Social learning theory can be used to describe a lifelong process, not just individual discrete aspects during a process. It integrates the concepts

of environmental influences and personal influences on the experiences and behavior of individuals. Social learning theory also explains self-concept as a product of experience. The development of self-concept can be followed by observing how an individual reacts to internal and external input.

A Social Learning Theory of Career Decision Making

The study of careers is not new. Professionals in psychology, sociology, and economics have made contributions to this area. Each discipline provides insights into the process of career decision making from its own perspective (Charner, 1979). These fields, however, offer only limited application to current career development theory, because each discipline has a separate narrow focus. Therefore, theorists deemed it necessary to create a theory with "a comprehensive orientation to career decision making which could explain its lifelong process and have practical applications for influencing that process" (Charner, 1979, p. 1). The theory titled, Social Learning Theory of Career Decision Making, was constructed by integrating the social learning theory with past research in the social-economic-psychological area related to career development and counselling.

The Social Learning Theory of Career Decision Making identifies the contribution and interaction of genetic factors, environmental conditions and influences, past learning experiences (including vicarious learning), cognitive and emotional responses, and performance skills that are associated with movement down one career path or another (Krumboltz, 1979). It should be noted that different decisions result from different interactions or combinations of these factors.

Decisions are mediated by internal or personal influencers and external or environmental influencers, which may act as either constraints or facilitators. These influencers affect the nature, number and manner of responding. Krumboltz (1979) suggested four categories of influencers on

career decision. The first category, genetic endowment and special abilities or talents, is believed to affect types of learning experiences available to an individual. This affects educational and occupational preferences and skills. Category two, environmental conditions and events, is usually an external influencer such as natural forces or human action (social, political, cultural, & economic). These factors also influence career preferences, skills, plans and activities engaged by an individual. Past learning experiences comprise the third of Krumboltz' categories of influencers. This category is divided further into two categories of learning: instrumental learning and associative learning experiences. Instrumental learning experiences consist of environmental stimuli (antecedents) that evoke a behavioral (overt or covert) response and, in turn, produce consequences. Associative learning experiences occur when a previously neutral stimulus is paired, in time or location, producing an emotive reaction. The final category of influencers are task approach skills. These skills (values, performance standards, work ethic, perceptual & cognitive processes, mental sets, & emotional responses) affect the outcome of each task.

Interactions among influencers are essential to understanding the significance of the Social Learning Theory of Career Decision Making. Learning experiences allow one to observe one's own performance in relation to past experiences and the experiences of others and make generalizations about performance. Krumboltz refers to this as self-observation generalization; others have referred to this as self-talk (Marshak & Seligman, 1993). Self-observation generalizations are defined as an "overt or covert self-statement evaluating one's own actual or vicarious performance in relation to learned standards" (Krumboltz, 1979, p. 27). These generalizations may not necessarily be accurate and may vary depending on environment or context. Even though self-observation generalizations may be inaccurate, they will continue to influence the

likelihood that an individual will or will not engage in a particular activity again. Therefore, the self-observation generalizations are a result of learning and affect future learning by influencing the types of learning experiences.

Humans are able to relate observations of themselves and their environment to evaluate events from the past and make predictions about the future. These abilities have been termed task approach (Krumboltz, 1979). Task approach skills are defined as "cognitive and performance abilities and emotional predispositions for coping with the environment, interpreting it in relation to self-observation generalizations, and making covert or overt predictions about future events" (Krumboltz, 1979, p. 29). All abilities used in career decision making are considered to be task approach skills. Value clarifying, goal setting, predicting future events, alternative generating, information seeking, estimating, re-interpreting past events, eliminating and selecting alternatives, planning and generalizing were included by Krumboltz and Baker (1973) in a list of possible task approach skills. These skills are learned through past instrumental and associative learning experiences. The degree to which task approach skills have been developed depends on prior learning experiences.

The final outcome of interactions among influencers is some type of action. Behaviors relevant to career decision making result from generalizations and skills that were learned from past experiences. The Social Learning Theory of Career Decision Making concerns itself with 'entry behaviors', those behaviors that are associated with the career progression. Applying for and accepting specific jobs or training programs or accepting a promotion are some entry behaviors. Other actions may be precursors to entry behaviors, however these are difficult to track or measure and occur throughout life.

In summary, the Social Learning Theory of Career Decision Making is a comprehensive, testable theory that is consistent with known facts. Using this theory, it is possible to look closely at any given event within the career progression. It postulates that an individual arrives at his current occupation as a result of interactions between genetic and environmental factors and complex learning experiences. In time, additional learning experiences will lead to further career changes and movement along the career path. A tool has been developed to help career counsellors assess and examine career beliefs.

Career Beliefs Inventory

Questionnaires and inventories such as the *Strong Interest Inventory* (Campbell, 1974) and the *Vocational Preference Inventory* (Holland, 1985) were constructed to assess a respondent's interests and preferences. Tests such as these have been proven to be valid and reliable tools used primarily in the area of vocational counselling. These tests do not, however, identify potential barriers to movement along the career path.

The *Career Beliefs Inventory* (CBI) (Krumboltz, 1991) is grounded in the Social Learning Theory of Career Decision Making. It is designed to help individuals identify career beliefs that may be preventing movement along a career path. The CBI is based on the premise that individuals make generalizations about themselves and about the work world from previous experiences. Regardless of the accuracy of these generalizations and assumptions, individuals will act as if the generalizations are true and make career decisions based on this information.

Beliefs may be thought of as schemata. A schema "is a belief about oneself and one's relation to the outside world" (Krumboltz, 1991, p.2). Schemata are learned throughout life and allow one to organize past experiences into a body of knowledge that is believed to be true. This body of knowledge guides interpretation of past and future events and

conjecture. Personal characteristic schemata were labelled self-observation generalizations by Krumboltz (1979). Schemata that related self-observation generalizations to the environment were labelled task approach skills. Although not specifically categorized as self-observation generalizations or task approach skills, both types of schemata are included in the CBI.

In summary, the Social Learning Theory of Career Decision Making was developed to provide a framework in which facts and constructs are inter-related to form a "system complete with propositions and illustrative hypotheses which can be tested" (Charner, 1979, p. 7). It was developed from past research in career development and counselling and has a strong basis in social learning theory. Essentially, each individual brings with him a unique set of traits (genetic endowments), life experiences, and ability to interpret situations (environmental conditions). Cognition and past experience allow one to interpret future events and consequences associated with these events, thereby producing options for decision making and new learning experiences. The new "learning experiences generate self-observation generalizations and task approach skills which lead to specific career-related actions" (Krumboltz, 1979, p. 38) . The CBI allows one to systematically examine specific task approach skills in an effort to determine what, if any, underlying schemata are preventing career progression.

Stuttering and Employment

There is good reason to believe that there is a relationship between stuttering and employment. The following discussion will attempt to familiarize the reader with research in the area of stuttering and employment.

Hurst and Cooper (1981) used Likert-type scales to examine employer attitudes toward stuttering. They found that employers believed that

stuttering interfered with job performance. The employers concurred that "stuttering decreases employability and interferes with promotion possibilities" (Hurst & Cooper, 1981, p 4). These results support the notion that stuttering is a "significantly handicapping problem" (Hurst & Cooper, 1981, p. 8).

In a follow-up study, Hurst and Cooper (1983) investigated vocational counsellors' attitudes toward stuttering. Counsellors were found to perceive stuttering as a significant vocational handicap. Counsellors also believed that employers discriminate against individuals with speech handicaps. This is consistent with the earlier findings of Hurst and Cooper (1981). Counsellors believed that stuttering would be amenable to therapy and believed that stutterers would almost always benefit from therapy. Stuttering was judged by the vocational counsellors to be one of the most vocationally handicapping speech disorders. It is noteworthy that these counsellors believed that the general public tends to react more negatively to stuttering than to another speech problem such as lisping (Hurst & Cooper, 1983). In general, the vocational counsellors believed that stutterers were good candidates for vocational counselling.

The literature supports the conclusion that stuttering is vocationally handicapping (Hurst & Cooper, 1981, 1983). Therefore, one might predict that stutterers limit occupational choice to occupations in which the handicap was minimized thereby demonstrating the phenomenon of *career selection barriers*. To date no published study has systematically attempted to determine if stuttering affects occupational choice. Kilmurry (1993), a journalist writing from personal observation and interview, wrote that although stutterers work in most occupational areas, some of the most popular choices include computing, writing, accounting, art, and music. It might be assumed that these choices were made because these occupational areas had less verbal demand. Kilmurry (1993) also reported

that many stutterers opt for manual labour jobs that require minimal verbal communication, despite abilities, interests and qualifications to do other jobs.

Pindzola's (1993) study offered additional support for the perception of stuttering as a disability. It indicated that biases against stutterers exist in the business world. A survey of college recruiters indicated they believed stutterers to be disadvantaged in relation to non-stutterers when seeking employment or promotion. Approximately 64% of college recruiters indicated that they would hire a non-stutterer over an equally qualified stutterer. These findings support the hypothesis that stutterers are being discriminated against in the work force. Research is currently underway at York University investigating the experiences of stutterers within the workplace (Rice, personal communication, August 16, 1994). Results from the York questionnaires indicate the possibility of prejudice and discrimination against stutterers in the workforce.

Craig and Calver (1991) investigated the effect of treatment on stutterers' employment and employer's perceptions of their speech. They found that over 40% of their subjects had some sort of career change or job promotion within 10 months of treatment. This may indicate that stutterers remain in a position for a long time or make career choices based on the impact of their stuttering, again exemplifying the phenomenon of *career selection barriers*. In other words, they may avoid a career which is perceived to make high verbal demands. At the time of this review, there have been no investigations to determine if stutterers differ from the general population in their occupational choice.

In summary, stuttering is a speech disability that may affect an individual's employment choices and potential. Prejudice and discrimination against stutterers in the workforce may currently exist. Although there are some suggestions that vocational choice may be affected

by stuttering, research has not focused on the impact of stuttering on an individual's vocational choice.

Summary of the Literature

A review of the literature indicates that career beliefs are influenced by a variety of factors. Evidence was presented that stuttering may influence an individual's occupational choice. Given the scarcity of literature in occupational decision-making and handicaps, further research, especially research that examines the influence of stuttering on occupational choice, appears to be warranted.

It is important to determine if stutterers limit educational and career options available to them based on their perceptions of their speech disorder. As discussed in the section on career beliefs and schemata, what people believe about themselves and the world of work will guide educational and career decisions.

A comparison of career-related beliefs of non-stutterers and stutterers may identify atypical beliefs held by stutterers. A difference between career-related beliefs of treated stutterers and untreated stutterers may indicate that therapy may be useful in modifying the schemata or beliefs of stutterers. Such information may justify effective early therapy to prevent or modify experiences that may evolve into career blocking beliefs.

Statement of Purpose

The purpose of this study was to investigate the following research questions:

1. Do stutterers differ from non-stutterers in terms of their career beliefs?

2. Do stutterers waiting for therapy differ from stutterers who have completed therapy at ISTAR in terms of their career beliefs?

3. Do treated stutterers tend to judge communication characteristics as having a more negative impact on career beliefs than other career-related characteristics?

CHAPTER 3

METHODOLOGY

Subjects

Three groups of subjects participated in this study: experimental, control and comparison. Experimental and control group subjects were stutterers identified through the Institute for Stuttering Treatment and Research (ISTAR) in Edmonton, Alberta. ISTAR provides services on a fee for service basis and accommodates approximately 15 - 25 adult male stutterers yearly in intensive three-week treatment programs. Both experimental and control group subjects were asked to invite a non-stuttering male friend, similar in age to participate in this study. This group, composed of adult male non-stutterers, served as the comparison group.

Adult male stutterers between the ages of 18 and 50 who met the following inclusion criteria and for whom current addresses were known were invited to participate in this study. The following information was obtained from the ISTAR client file to determine stutterers' eligibility to participate in this study:

1. Age: Between 18 and 50 years
2. Onset: Stuttering began in childhood as diagnosed by a speech-language pathologist and/or family physician
3. Sex: Male

The potential experimental group respondents consisted of 194 stutterers who had completed at least one three-week clinic of intensive therapy at ISTAR. The potential control group respondents consisted of six clients awaiting therapy in the 1995 May clinic at ISTAR, who met the

inclusion criteria noted above. The potential comparison group consisted of 200 adult male non-stutterers.

Materials

Publisher's written permission was obtained to modify and reproduce up to 400 copies of the Career Beliefs Inventory (CBI) (Krumboltz, 1991). A copy of the permissions agreement can be found in Appendix A. The CBI consists of 96 bipolar statements designed to examine career beliefs under 5 headings with 25 subscales. The following is a list of each heading with corresponding subscales from the CBI.

My Current Career Situation
- Employment Status
- Career Plans
- Acceptance of Uncertainty
- Openness

What Seems Necessary for My Happiness
- Achievement
- College Education
- Intrinsic Satisfaction
- Peer Equality
- Structured Work Environment

Factors That Influence My Decisions
- Control
- Responsibility
- Approval of Others
- Self-other Comparisons
- Occupation/College Variation
- Career Path Flexibility

Changes I Am Willing to Make
- Post-Training Transition
- Job Experimentation
- Relocation

Effort I Am Willing to Initiate
- Improving Self
- Persisting While Uncertain
- Taking Risks
- Learning Job Skills
- Negotiating/ Searching
- Overcoming Obstacles
- Working Hard

Each subscale is represented by at least two (2) bipolar statements. Following are examples of two representative bipolar statements from the Openness subscale:

*52 I can be perfectly open with others about the reasons for my career choices.

*103 I know why I'm making my career choices but prefer not to disclose them to anyone.

One statement from each bipolar pair of statements was assigned to one of two groups by the author who then randomly ordered the statements within each group. This enables the user to check on response reliability by comparing bipolar responses. Responses to each statement are made on a separate sheet which may be optically scored. A 5-point Likert-type scale is used for responding.

This investigator developed 24 additional statements, similar in format to the CBI statements, to make a modified questionnaire of 120 statements. The purpose of this study was to determine if the career beliefs of treated stutterers differ from the career beliefs of pre-treatment stutterers and non-stutterers. In addition, this study was designed to determine if stutterers' speech-related career beliefs were more important than general career beliefs when making career decisions. These statements were developed to address speech-related career beliefs. This new modified questionnaire is referred to as the Modified Career Beliefs Inventory (M-CBI) in this document. Added statements were developed to address the following areas: happiness in current job/position, perceived occupational competency, openness about speech, and verbal job requirements.

To be consistent with the original questionnaire construction, the additional 24 statements were also divided into two groups, each group containing one member of the bipolar pair. Statements from one group were added in random order to CBI statements *1 - *48. The second group of statements was added in random order to CBI statements *49 - *96.

Therefore the interspersed statements were added randomly to two groups in such a way that each subscale included a representative statement in each group. The M-CBI is attached as Appendix B. The original purpose of the CBI was to identify potentially career blocking beliefs and it intended to be for research purposes. In order to adapt the CBI for this research study, validity needed to be assessed.

Validity

Validity of a tool can be defined "as the degree to which it measures what it purports to measure" (Ventry & Schiavetti, 1986, p. 97). The validity of a tool can be established in the following three ways. Content validity refers to "logical examination of the content of the test items to see how well they sample the behavior or characteristic to be measured" (Ventry & Schiavetti, 1986, p. 97). Criterion validity refers to how well the test to be validated correlates with "outside validating criterion" (Ventry & Schiavetti, 1986, p. 97). There are two types of criterion validity: concurrent validity and predictive validity. Strong correlation with an already existing tool provides concurrent validity. Predictive validity is used to predict future behavior. The final approach to measuring validity is construct validity. Construct validity assesses the degree to which a tool or test reflects the theory from which it was constructed.

Krumboltz (1991) reports that the validity of an inventory or assessment tool, such as the CBI, depends on the purpose for which it is to be used. The purpose of an aptitude test is to predict future performance, often grades. Therefore, the validity of an aptitude test can be assessed by comparing test results to grades. "There is no single meaningful criterion against which one can validate career beliefs" (Krumboltz, 1994, p. 17). To assess concurrent validity, Krumboltz compared responses to specific CBI questions regarding job satisfaction with self-reported responses to measures of job satisfaction. Results

indicated that validity coefficients varied depending on subscale and group (e.g. sex). Validity, was further established by correlating responses on the CBI to other, already validated tools (e.g. *Strong Interest Inventory*). Krumboltz found that the CBI measured different constructs than other tools, although there was some overlap with specific subscales. Therefore, the CBI appeared to be measuring something different than other assessment tools currently available. The CBI was not intended to predict future behavior, that is to have predictive criterion validity. Rather it was designed to identify current beliefs that are potentially career blocking. Career beliefs can not be measured through direct observation. Therefore, to determine an individual's career beliefs, it is necessary to ask people to directly report their beliefs (face validity) (Krumboltz, 1991).

To ensure that the additional 24 statements grouped under four headings were indeed being interpreted as they were intended, responses from two independent groups were solicited to evaluate the face validity of the questions. One group consisted of four individuals who had research backgrounds and experience in the areas of questionnaire development or questionnaire administration. These individuals were asked to read the added statements and answer the questions found in Appendix C. The second group consisted of four adult females who had attended at least one three-week intensive stuttering clinic held at ISTAR. The second group members were chosen because they closely resembled the experimental group and they were relatively accessible (i.e. questionnaires could be completed and returned quickly). The group of women who stuttered were asked to read the statements and answer the questions found in Appendix D.

Comments and suggestions made by either group regarding wording and ambiguity of the statements or the headings were considered when creating the final draft of the M-CBI (Appendix B). The results of this

assessment suggested that the 24 additional statements included within the M-CBI could be grouped into four distinct headings: verbal job requirements, openness, perceived occupational competence, and happiness in current job/position.

Although all efforts were made to produce a tool that was both clear and useable as intended, it was important to verify that linguistic complexity or statement wording was not too advanced for the reader.

Reading Level

Readability scores allow one to index the linguistic complexity of a document. The readability of the CBI items was estimated to be at the grade eight reading level, according to two different readability programs, *PC-Read* and *PC-Style*, as reported in the CBI manual.

A comparison of readability among the CBI, M-CBI and the additional 24 speech-related statements was done using Grammatik™Mac (1990). Flesch-Kincaid Grade Level scores, indicated the additional 24 speech-related statements to be at the grade three level. The M-CBI and CBI grade levels were reported to be 5 and 6 respectively. These data suggest that the M-CBI should be readable by individuals who have successfully completed at least grade 3.

Reading ease scores, as indexed by the Flesch Reading Ease scale, also indicate similar results. Scores can range from 0-100, lower scores being more difficult to read. Scores for the CBI, M-CBI and speech-related statements were 82, 80, and 83 respectively. According to these scores, the minimum education required to read the M-CBI is lower than the grade 6 level.

Grade level estimates, readability and reading ease scores must be interpreted with caution. Because the scores are derived from different formulas, they are not necessarily directly comparable which might explain the differences between the CBI manual scores and the data reported here.

It should be noted that the results from any of the readability scales may be easily inflated (modified) by increasing sentence length, or by introducing a long or relatively rarely used word. This might explain the difference between the Grammatik™Mac (1990) and CBI manual readability scores for the CBI statements. A conservative estimate would indicate that the M-CBI is a questionnaire that can be read by individual with at least a grade 5 level of education.

Procedures

Questionnaire Administration

Experimental and control group subjects were sent two copies of the M-CBI, a questionnaire about career beliefs. These subjects were asked to complete and return one copy and ask a non-stuttering friend to complete and return the other. Questionnaire completion was expected to take approximately 30 to 45 minutes. All subjects in the three groups were asked to participate in this study on a voluntary basis.

A total of 400 questionnaires were distributed to all potential subjects. Six of the original questionnaire packages were returned unopened from the experimental group, reducing the maximum sample size to 388. Of the seventy-one questionnaires (18.3%) completed and returned; 44 stutterers (22.7%) ; 40 experimental group members (21.3%); and 4 control group members (66.7%) responded to the questionnaire. The ISTAR treatment waiting list consisted of only 6 potential subjects, hence the low control group numbers. One response form from the experimental group was only partially completed and was not included in data analysis. Twenty-seven (13.9%) questionnaires were returned by friends of the stutterers, the comparison group.

A cover letter from the Executive and Clinical Directors of ISTAR accompanied the mail questionnaire to indicate support for this project (Appendix E). A letter addressed to ISTAR clients delineating the purpose

of this project, confidentiality, and instructions on how to complete and return the questionnaire was included (Appendix F). A letter inviting the participation of male non-stuttering friends of the experimental group members was included in the package sent to the members of the experimental group (Appendix G).

To improve questionnaire return rates, a follow-up letter was sent to individuals in the experimental group whose completed response form had not been received within 6 weeks from the initial mailing (Appendix H).

Design and Variables

This study primarily took the form of a descriptive study and can be divided into three distinct designs, each related to its corresponding research question. The design for the first research question was causal comparative, because it compared the responses from treated stutterers with those of their non-stuttering peers and inferred causality in the absence of an experimental design. The second question prescribed a between-groups quasi-experimental design. A truly experimental design would have included random selection and assignment of subjects to groups with an adequate sample size in each group. These conditions could not be met in this study. The third question compared stutterers' responses on the CBI to their responses on the additional 24 items. The design for the third question was a within-groups causal comparative design.

The independent variables differed with respect to each research question. The independent variable for the first research question was Fluency having two levels: Stuttering and Non-stuttering. The independent variable for the second research question was Treatment Stage having two levels: Pre-treatment and Post-treatment. The independent variable for the third research question was Career Beliefs Category having two levels: General and Speech-Related.

The dependent variables also differed with respect to the research questions. The dependent variables for the first and second research questions were derived from subsets of questionnaire items. The dependent variable in the third research question actually was two different dependent variables. Speech-related characteristics and general career-related characteristics were treated as though they were the same thing. It was necessary to do this because comparison could not be done without treating these variables the same. Although a somewhat unorthodox application of the repeated measures design, this was the only way of answering the third research question.

Scoring

All completed returned response forms were manually entered individually into a Quattro®Pro version 1 for Windows™ (Borland, 1992) spreadsheet using an IBM™ compatible 386 personal computer. To ensure that all data were correctly and accurately entered, a Text-To-Speech program, *Monologue for Windows* (1991), was used to 'read' out all data as the investigator checked the original response forms. Therefore, there was 100% agreement between the returned response forms and corresponding subject data in the computer spreadsheet.

The CBI hand scoring key (Krumboltz, 1992) was used to produce a M-CBI scoring key. The M-CBI scoring key was used to group items under the corresponding subscale to be used in data analysis.

Respondents were asked to mark two responses for one item on the response form, if they believed that a statement did not apply to them or they did not wish to respond to that question. Excluding the single response form that was returned partially completed, a total of 217 statements (2.6%) were spoiled or double marked and only five (0.1%) of the statements were left blank (i.e. no marking to indicate response). The

following item numbers were spoiled most frequently and were not included in further analysis: #104 (8.3%), #20 (6.7%) and #96 (6.7%).

Factor Analysis

Prior to initiating tests for significant differences, factor analysis was used to determine which items with similar underlying constructs were to be grouped together to represent dependent variables. These constructs were then compared using the appropriate statistical analysis. Factor analysis was employed to provide this information using the computerized statistics program *StatView version 4.01* (Haycock, Roth, Gagnon, & Spector, 1993).

Separate factor analyses were carried out for the CBI data and the additional 24 items. Reasons for this were two-fold: (a) a concern that the inclusion of the additional 24 statements might have caused different response trends among the groups, and (b) an effort to strengthen the validity of the additional 24 items and their constructs.

The CBI data were factor analyzed with an oblique solution reference structure that revealed 27 separate factors. Close examination of these factors showed much variability among factors with respect to strength of loading (+.010 - -.874) and number of items per factor (range 1-7; mode 3). In order to make relevant comparisons it was decided that only factors with a minimum of two items each with a minimum loading of ±.500 would be included for further data analysis. This reduced the number of factors for comparison to ten. The following list indicates the factors and their component items: Work Ethic (#32, #90, #93, #113, #119); Openness (#52, #65, #103), Relocation (#19, #53, #103), Job Training (#48, #87, #110); Indecision (#27, #58, #67, #79); Guidance (#12, #77, #88); Approval (#46, #106); Job Experimentation (#61, #102); College Education (#26, #86, #112); Motivation (#17, #28, #37). It should be noted that the Openness construct

contains the same items as the original CBI. Other M-CBI constructs have partial representation of the original CBI construct items.

Unrotated factor analysis of the additional speech-related items resulted in five factors. Unlike the CBI factor analysis, the results of the speech-related items showed the underlying constructs very clearly. Three statements were not included for further data analysis, because they were either below the designated cut-off mark of ±.500 or they loaded singularly as one factor. It should be noted that the resultant item groupings from factor analysis very closely match the original item groupings of the speech-related subscales. This supports the validity of the speech-related statements. Factor analysis yielded the following two constructs to be used in subsequent data analysis: Speech-Related Career Beliefs (#3, #16, #20, #22, #29, #33, #55, #60, #63, #66, #92, #96, #98, #104, #108, #115, #117) and Occupational Happiness (#25, #35, #50, #76).

In summary, twelve separated constructs were identified using factor analysis. Ten constructs were from the original CBI and two constructs were from the additional speech-related items.

Data Analysis

Scaling procedures involve ranking statements and produce ordinal level data. The data produced from the M-CBI resulted produced from responses to a 5-point Likert-type scale and were scaled from 1 (strongly disagree) to 5 (strongly agree). Distances between each value were not necessarily consistent or known. Mean and median group values were calculated for each M-CBI construct and are shown in Table 1. The greatest difference between mean and median values was noted for the following cases: Post-treatment Stutterers - Relocation construct ($\underline{M}$=3.38; Median=3.00) and Post-treatment Stutterers - Job Experimentation construct ($\underline{M}$=3.63; Median=4.00). It is therefore believed that since the mean and median values for each group were so similar the mean could be

considered an adequate representation of central tendency and that parametric statistics could be used with these data.

Table 1.
Mean and Median M-CBI Construct Values for Pre-treatment Stutterers, Post-treatment Stutterers and Non-Stutterers.

	non-stutterer (comparison group)		post-treatment (experimental group)		pre-treatment (control group)	
Construct Title	Mean	Median	Mean	Median	Mean	Median
Work Ethic	3.96	4.00	3.94	4.00	3.92	3.83
Job Training	3.73	3.67	3.84	4.00	3.92	3.83
Openness	3.86	4.00	3.70	4.00	3.75	4.00
Job Experimentation	3.70	4.00	3.63	4.00	3.25	3.25
Motivation	3.53	3.67	3.56	3.67	2.92	3.17
Relocation	3.06	3.33	3.38	3.00	3.83	3.50
Speech & Employment	3.56	3.53	3.33	3.21	3.29	3.26
Guidance	3.11	3.33	3.22	3.00	4.08	4.00
Indecision	2.72	3.00	2.67	2.75	3.06	3.13
College Education	2.48	2.33	2.60	2.67	1.92	2.00
Occupational Happiness	3.15	3.25	3.19	3.50	2.31	2.50
Approval	2.83	3.00	2.59	2.50	2.38	2.25

Each research question involved the use of multiple *t*-tests to compare either group means (independent samples) or to compare a mean for one construct to a mean for another (repeated measures). Kirk (1968) discussed the limitations of multiple *t*-test comparisons, noting that it is necessary to control the "experimentwise error rate" (p. 84), because the likelihood of finding a significant difference is increased with each additional *t*-test performed. The experimentwise error rate was controlled by dividing the critical alpha level ($p \leq .05$) by the number of *t*-tests to be performed. This reduced the likelihood of finding a significant difference by chance. This may also have disadvantaged the author when looking for significant differences, because the resulting critical alpha level was so

small. However, powerful differences are suggested when significant differences are found with a very small critical alpha level.

The first research question compared the responses from two independent samples: Post-treatment Stutterers and Non-stutterers. The second research question also compared the responses from two independent groups: Pre- and Post-treatment Stutterers. Independent samples *t*-testing was the most appropriate form of data analysis for research questions one and two. As previously discussed, factor analysis revealed constructs that were appropriate for analysis. Research questions one and two compared the means for the twelve dependent variables. The critical alpha level for both research questions one and two were adjusted to reflect the use of repeated *t*-tests ($p \leq .004$) to compensate for the experimentwise error rate. The third research question compared the average score for speech-related statements to the average score for general career beliefs constructs. Since the mean responses for each of the two response categories were derived from data from the same subjects, paired *t*-tests or *t*-tests for related samples were used to analyze those data. Eleven dependent variables were compared in research question three, necessitating an adjusted critical level of alpha of $p \leq .005$ to compensate for the experimentwise error rate. Analyses were carried out using *StatView SE+ Graphics* (Feldman, Hofmann, Gagnon, and Simpson, 1988).

CHAPTER 4
RESULTS

This study had three goals: 1) to determine if stutterers differ from non-stutterers in terms of their career beliefs, 2) to determine if stutterers waiting for therapy differ from stutterers who have completed therapy at ISTAR in terms of their career beliefs, and 3) to determine if treated stutterers tend to judge communication characteristics as having a more negative impact on career beliefs than other career-related characteristics.

The first research question was answered using 12 independent samples *t*-tests with the critical level of alpha set *a priori* at $p \leq .004$. Dependent variables (constructs) were obtained by averaging raw score responses for each individual for each item identified by factor analysis. Comparison of stutterers to non-stutterers on ten general career beliefs and two speech-related career beliefs did not reveal any significant differences as a result of independent samples *t*-testing (Table 2).

The second research question was also answered using twelve independent samples *t*-tests with the critical alpha level set *a priori* at $p \leq .004$. Again, dependent variables (constructs) were obtained by averaging raw score responses for each individual for each item identified by factor analysis. Comparison of stutterers to non-stutterers on ten general career beliefs and two speech-related career beliefs did not reveal any significant differences as a result of independent samples *t*-testing (Table 3). Multiple *t*-test comparisons between pre- and post-treatment stutterers did not reveal any significant differences using a critical alpha level of $p \leq .004$ (Table 3).

Table 2.
M-CBI Construct Means for Post-treatment Stutterers and Non-Stutterers

Construct Title	non-stutterer (comparison group) Mean	post-treatment (experimental group) Mean	Unpaired *t*-value	*p*-value
Work Ethic	3.96	3.94	0.130	.8973
Job Training	3.73	3.84	-0.555	.5808
Openness	3.86	3.70	0.781	.4378
Job Experimentation	3.70	3.63	0.399	.6909
Motivation	3.53	3.56	-0.147	.8837
Relocation	3.06	3.38	-1.226	.2248
Speech & Employment	3.56	3.33	1.743	.0862
Guidance	3.11	3.22	-0.533	.5955
Indecision	2.72	2.67	0.259	.7963
College Education	2.48	2.60	-.538	.5924
Occupational Happiness	3.15	3.19	-0.132	.8955
Approval	2.83	2.59	1.118	.2676

Table 3.
M-CBI Construct Means for Pre- and Post-treatment Stutterers

Construct Title	pre-treatment (control group) Mean	post-treatment (experimental group) Mean	Unpaired *t*-value	*p*-value
Work Ethic	3.92	3.94	0.060	.9524
Job Training	3.92	3.84	-0.193	.8478
Openness	3.75	3.70	-0.120	.9050
Job Experimentation	3.25	3.63	0.878	.3851
Motivation	2.92	3.56	1.519	.1363
Relocation	3.83	3.38	-0.970	.3376
Speech & Employment	3.29	3.33	0.155	.8773
Guidance	4.08	3.22	-2.082	.0436
Indecision	3.06	2.67	-1.064	.2937
College Education	1.92	2.60	1.414	.1649
Occupational Happiness	2.31	3.19	1.253	.2174
Approval	2.38	2.59	0.469	.6412

The remaining research question compared treated stutterers' responses for speech-related career beliefs to responses for each of the ten general career beliefs constructs. Repeated one-tailed *t*-tests were performed necessitating an adjusted critical alpha level set *a priori* $p \leq .005$. No significant differences were revealed between comparisons of the Speech and Employment construct and the following other general career beliefs constructs: Job Experimentation, Motivation, Relocation, and Guidance (Table 4). A paired *t*-test indicated a significant difference, $t_{38} = 2.935$, p=.0028, between stutterers' responses to statements within the Openness construct (M=3.7), and responses to statements within the Speech and Employment construct (M= 3.33). A paired *t*-test indicated a significant difference, $t_{38} = 5.754$, p=.0001, between stutterers' responses to statements within the Work Ethic construct (M=3.94), and responses to statements within the Speech and Employment construct, (M= 3.33). A paired *t*-test indicated a significant difference, $t_{38} = 4.211$, p=.0001, between stutterers' responses to items within the Job Training construct (M= 3.84) and the Speech and Employment construct (M= 3.33). A paired *t*-test indicated a significant difference, $t_{38} = -4.872$, p=.0001, between stutterers' responses to items encompassed by the Indecision construct (M= 2.67) and to items encompassed by the Speech and Employment construct, (M= 3.33). A paired *t*-test revealed a significant difference, $t_{38} = -4.956$, p=.0001, between stutterers' responses to statements within the Speech and Employment construct, (M= 3.33), and responses to statements within the Approval construct, (M= 2.59). A paired *t*-test revealed a significant difference, $t_{38} = -4.231$, p=.0001, between stutterers' responses to items encompassed by the Speech and Employment construct, (M= 3.33), and responses to items encompassed by the College Education construct, (M= 2.6). In summary, comparisons between treated stutterers' responses to the speech-related construct,

Speech and Employment, and the following general career beliefs constructs revealed significant differences: Approval, College Education, Work Ethic, Openness, Job Training, and Indecision. All other paired *t*-tests comparing stutterers' responses to speech-related statements and the remaining general career belief constructs did not reveal any significant differences.

Table 4.
Treated Stutterers' M-CBI Construct Means when compared to Speech and Employment Construct (M=3.33).

Construct Title	post-treatment (experimental group) **Mean**	**Paired *t*-values** (df=38)	***p*-value**
Work Ethic	3.94 *	5.754	.0001
Job Training	3.84 *	4.211	.0001
Openness	3.70 *	2.935	.0028
Job Experimentation	3.63	2.073	.0225
Motivation	3.56	1.680	.0506
Relocation	3.38	0.331	.3713
Guidance	3.22	-0.861	.1974
Indecision	2.67 *	-4.872	.0001
College Education	2.60 *	-4.231	.0001
Approval	2.59 *	-4.956	.0001

CHAPTER 5
DISCUSSION

The purpose of this study was to determine if treated stutterers differ from groups of pre-treatment stutterers and non-stutterers in terms of their career beliefs. Additionally, this study sought to determine if treated stutterers responded differently to two general categories of constructs within the M-CBI, specifically a speech-related items category and a general career related items category.

Research Question #1

The first research question asked whether stutterers differed from non-stutterers in terms of their career beliefs. It was not possible to distinguish between groups of post-treatment stutterers and non-stutterers solely on the basis of responses to the M-CBI. It was believed that, since stutterers have different learning experiences from non-stutterers, differences in career beliefs would be seen between the two groups, especially for speech-related items. These learning differences did not appear to change respondent patterns. There could be several reasons why statistical analysis did not reveal any significant differences.

It is possible that, with the substantial range of ages utilized in this study (18 - 50 years), any significant differences that may have existed were masked. For instance, there may have been significant trends within specific age classes, however when grouped as a population, no overall trend was evident. Division into smaller age groups followed by *t*-testing could determine if this is indeed the case. However, it was not possible to make such comparisons, because the ages of comparison group subjects were not known.

Assuming therapy affected general and speech-related career beliefs of stutterers, it is possible that the length of time post-therapy could affect

the responses of stutterers. Said differently, as time post-therapy increased, the effects of therapy may have become less notable. Therefore, if the majority of stutterers who responded had not received therapy recently, possible differences might be masked. Time post-treatment was not tracked, and therefore, it is not known if this is a viable explanation for the lack of significant differences between treated stutterers' and non-stutterers' career beliefs.

Response bias occurs when participants respond in a manner that does not necessarily reflect their actual beliefs, but rather reflect their desire to answer what they feel the researcher wants them too. Despite efforts to prevent response bias (e.g. instructions, there are no right or wrong answers, answer what you feel is correct), it is possible that one or both groups answered in such a manner so as to cause group means to converge. Response bias may have reduced the degree of any difference that was present, resulting in no significant differences between groups.

It was estimated that the overall prevalence of stuttering is approximately 1% (Andrews, et al., 1983; Palmer & Yantis, 1990; Wingate, 1983). It can be assumed that, for a variety of reasons, only a portion of the stutterers are identified and only a fraction of those stutterers seek therapy at ISTAR. Subjects who responded to the M-CBI, therefore, are a distinct subgroup of stutterers. These individuals may or may not have had the same experiences as their non-stuttering counterparts, however they appear to have similar career blocking or facilitating beliefs. It is speculated that those individuals who did not respond from the stuttering group were less comfortable sharing their career beliefs. Those stutterers who did not respond may have more career blocking beliefs than those who responded and, therefore, would have decreased the mean for treated stutterers. Since *t*-testing involved comparisons of group means, the

decreased mean might then have resulted in a significant difference between career beliefs of treated stutterers and non-stutterers.

Comparison group members were recruited by experimental group nomination. It is likely that each individual from the experimental group could have chosen from a number of different acquaintances fitting the required characteristics of this study - male non-stutterer of the same age. Potential nominees could have been from a wide range of educational, technical and experiential backgrounds. It is not difficult to conceptualize that different nominees could have responded differently to the M-CBI, thereby altering the results. The assumption implicit in this study was that a stutterer would have asked a friend who is similar to him in most ways with the exception of stuttering. It was assumed that a stutterer would feel most comfortable asking a non-stuttering friend who is most similar to himself in age, educational and moral background. Since many different factors may have been at play when choosing a nominee, the non-stutterers who were approached to participate in this study and who returned the questionnaire may not have been representative of non-stutterers as a whole. Had stutterers nominated non-stutterers different from themselves, the results would have shown the presence of differences - artificial differences. The results support the assumption that stutterers chose non-stuttering friends who were similar to them to participate in this study. This, however, does not allow one to conclude that this non-stuttering group is representative of the non-stuttering population.

Although independent samples *t*-tests did not reveal significant differences between stutterers and non-stutterers, it can not be assumed that the two groups are similar. The only conclusion that can be drawn from these results is that these two groups are not significantly different with respect to their career beliefs. Several factors were discussed that may

have led to a lack of significant difference between stutterers' and non-stutterers' responses to the M-CBI.

Research Question #2

The second research question asked whether treated stutterers differed from stutterers awaiting therapy in terms of their career beliefs. An underlying assumption was that stuttering therapy changes stutterers' attitudes, and therefore, a change in career beliefs might be noted. Taken one step further, should therapy begin earlier to prevent potentially career blocking beliefs from occurring, or should therapy specifically address career blocking beliefs. It was not possible to distinguish between pre- and post-treatment stutterers with respect to career beliefs. Reasons for the lack of significant difference are discussed.

It is possible that immediately post-therapy significant differences between the career beliefs of pre- and post-treatment stutterers were present. It is conceivable that, as time passed, the degree of difference became less pronounced to the point that statistical testing would not indicate differences. The length of time elapsed since completion of therapy was not a consideration when performing data analysis because this information was not gathered (e.g. comparisons between pre-treatment stutterers & 1-year post-treatment, 2-year post-treatment were not conducted). It is possible that any differences that may have been present immediately post-treatment were masked by responses from individuals who had not recently received therapy.

An alternate hypothesis for why career beliefs did not differ between pre- and post-treatment stutterers relates to their common experiences as stutterers. It is possible that by the time stutterers reach adulthood, as was the case for all of the male stutterers in this study, they have had similar experiences concerning stuttering and employment and that direct intensive stuttering therapy does not indirectly affect career beliefs.

Administration of the M-CBI before and after therapy with subsequent repeated measures *t*-tests would indicate if stutterers' career beliefs are modified as an indirect result of therapy. If this proves to be the case, it may be necessary to address potentially career blocking beliefs as a separate part of therapy.

It cannot be assumed that pre- and post-treatment stutterers career beliefs are similar simply because independent samples *t*-tests did not reveal significant differences. The only conclusion that can be drawn from these results is that these two groups are not dissimilar. Two factors that may have led to a lack of significant difference between these two groups' responses to the M-CBI have been discussed.

Research Question #3

The final research question attempted to determine if treated stutterers' general career beliefs differed from their speech-related career beliefs. It was believed that speech related career beliefs would play a more significant role in career decisions for stutterers than general career beliefs, and therefore one-tailed repeated measures *t*-tests were performed. Despite a critical alpha level set *a priori* ($p \leq .005$), stutterers' mean responses for six general career beliefs constructs were found to be significantly different from the speech-related construct, Speech and Employment.

When interpreting the means for each construct and how they relate to the mean for Speech and Employment it may be helpful to imagine that the construct means lie on a continuum. Subjects were asked to respond to M-CBI statements by indicating if they strongly disagree (1), disagree (2), neither disagree or agree (3), agree (4), strongly agree (5). Therefore mean responses greater than three indicate that stutterers agreed with the items within a construct and mean responses below three indicate disagreement. Lower mean responses do not necessarily represent aberrant career beliefs,

rather they may indicate a hierarchy of constructs that are considered when making career decisions.

It might be helpful to consider career beliefs means for stutterers as a hierarchy of factors that are considered when making career decisions. Table 5 contains eleven career belief constructs and their means. Stutterers may consider constructs with larger mean values a priority when making career decisions. Lower mean values may not be aberrant, requiring specific remedial career counselling therapy, but rather they may be less important to the individual when considering career options. For instance, stutterers indicate that the need for training is important for successful employment, however, the need for a college education is not as important.

Before discussing the significance of the paired *t*-test results, it is necessary to discuss the significance of stutterers' Speech and Employment mean. The mean for stutterers' responses to statements about speech-related items was 3.33. It was predicted that since speech and communication are central to successful employment, stutterers would tend to respond more negatively about questions regarding Speech and Employment resulting in a lower group mean. Overall, the results showed that stutterers responded more positively toward speech-related items. Generally, stutterers were satisfied with their employment and did not intend to look for another job at the time they answered the questionnaire. It is encouraging that, as a group, they did not feel strongly that stuttering limited the occupations they believe they could perform adequately and that the high verbal requirements of a job did not deter stutterers from considering a specific job as viable employment. Although these results are encouraging, it is necessary to remember that these subjects were ISTAR graduates who are not necessarily typical of all males who stutter.

Table 5.
Mean Values for M-CBI Constructs for Treated Stutterers.

Construct Title	Mean
Work Ethic	3.94
Job Training	3.84
Openness	3.7
Job Experimentation	3.63
Motivation	3.56
Relocation	3.38
Speech & Employment	3.33
Guidance	3.22
Indecision	2.67
College Education	2.6
Approval	2.59

Responses from the treated stutterers who did not return their questionnaire might skew the mean supporting the hypothesis that stutterers speech-related career beliefs are indeed career blocking. To understand the importance of the above results it is necessary to consider how the Speech and Employment mean relates to other general career beliefs.

General career beliefs constructs can be grouped into two distinct categories resulting from data analysis: those that were found to be significantly different from the Speech and Employment construct and those that were not significantly different. Constructs that were not found to be significantly different centre around the effort individuals are willing to put in to improve their employment situation and can be loosely grouped under the heading, Effort. Those constructs that were found to be significantly different concerned attitudes toward factors that can influence one's career and can be loosely grouped under the heading, Influencing

Factors. Therefore these two groups of constructs can be referred to as Effort and Influencing Factors.

Effort

The Speech and Employment construct mean was not found to be significantly different from general career beliefs constructs grouped under the Effort heading. Statements pertaining to the following constructs fall under the Effort heading: Relocation ($\underline{M}$=3.38), Motivation ($\underline{M}$=3.56), Guidance ($\underline{M}$=3.22) and Job Experimentation ($\underline{M}$=3.63). Inspection of the mean for each of these four constructs does not indicate the presence of career blocking beliefs in this group of stutterers for these constructs. The lack of a significant difference between Speech and Employment and the constructs within the Effort heading is indicative of generally positive career beliefs that may be facilitating career growth in stutterers.

Influencing Factors

Constructs included under the Influencing Factors heading were found to be significantly different from Speech and Employment. Items within the following constructs are grouped together under the Influencing Factors heading: Work Ethic, Job Training, Openness, Indecision, College Education, and Approval. The constructs encompassed by the Influencing Factors heading were further grouped into two subheadings based on how constructs related to Speech and Employment (i.e. whether speech related items were agreed to or disagreed to more strongly). The subhead Job Skills contains constructs that pertain to specific job skills and includes the following constructs: Work Ethic, Openness, and Job Training. The subhead Choice Factors includes Indecision, College Education, and Approval constructs. Interpretation of the results will be done with respect to each subhead and the specific constructs that lie within.

Job Skills

The Job Skills subheading includes constructs that may be key to job attainment and may be considered entry behaviors. Entry behaviors are those behaviors associated with career progression (Krumboltz, 1979). Positive work philosophy and ethic, openness about reasons for job choice, and positive attitudes about job training are all encompassed within the definition of entry behaviors. Stutterers tended to agree more strongly with statements regarding Work Ethic (M=3.94), Openness (M=3.7), and Job Training (M=3.84) than to statements about Speech and Employment. A significant difference between Work Ethic, Openness, or Job Training and Speech and Employment should be interpreted positively, since all indicate potentially facilitating career beliefs. This is encouraging because stutterers do not appear to respond in a manner that would indicate that their speech-related beliefs are career blocking. It is reassuring that stutterers' do not appear to place too much emphasis on speech related issues and consider the importance of training, openness, and positive work ethic when making career decisions.

Work ethic

Treated stutterers on average agreed most strongly to the items within the Work Ethic (M=3.94) construct than to any other construct. The Work Ethic construct was composed of five items. Stutterers as a group responded very consistently to all of the five items resulting in a large mean. This lends support to the validity of grouping these items together under one construct. The large mean indicates that stutterers believed that a positive working attitude is necessary for a successful career. The fact that stutterers' place more emphasis on work ethic than on speech-related items is believed to be positive, indicating that they are able to see beyond their speech disability when making career decisions.

Openness

Stutterers historically have had difficulty discussing their speech problems with others. Boberg and Boberg (1990) found that, in general, stutterers did not discuss their stuttering problem, even with those very close to them. They labelled this phenomenon *the conspiracy of silence*. The fact that stutterers agreed more strongly to statements about the ability to discuss reasons for career decisions rather than to speech-related statements is not surprising. These results suggest that even treated stutterers are more likely to talk about the reasons for job choice than about speech-related issues as they pertain to employment. It is possible that stutterers feel more vulnerable when discussing the very personal topic of stuttering than when discussing other career related issues. As a part of therapy, the Comprehensive Stuttering Program (CSP) (Boberg & Kully, 1985) directly and indirectly addresses the issue of openness about stuttering. In the absence of this therapy, it would be anticipated that the difference between stutterers' speech-related career beliefs and the Openness construct would be even more pronounced.

Job Training

Items concerning the need for and role of training were generally regarded positively by the group of treated stutterers. Stutterers agreed more strongly to items about training than to speech-related items. This likely reflects the view that training is necessary for successful employment. Significant differences between the speech-related items and items about training may be interpreted in the following manner. Since training will provide a stutterer with the skills necessary to perform a job, that individual need not be as concerned about speech related issues. Once equipped with the skills to perform a job, a stutterer may consider himself at par with non-stutterers in the job market.

In summary, stutterers regard constructs included under the Job Skills subheading (Work Ethic, Openness, & Job Training) as more important than speech related items included in the Speech and Employment Construct.

Choice Factors

Stutterers tended to agree more with statements regarding Speech and Employment, M=3.33, than to statements about Career Indecision, M=2.67, College Education, M=2.6, and the Need for Approval, M=2.59. It is interesting that the mean values for these three constructs are the only ones emphasizing the importance of speech related career beliefs. Reasons for this will be discussed.

Career Indecision

Items concerning career flexibility and career indecision were not considered to be as important as speech-related constructs, and in general, stutterers tended to disagree somewhat with the statements within the Career Indecision construct. It is unclear as to why stutterers tended to regard career indecision and career flexibility negatively. These results might indicate that, as a group, stutterers would like to identify and establish their career choices and stay with them. This static mind set does not encourage job experimentation and may result in underemployment (i.e. the stutterer does not attempt to obtain a promotion or career change).

College Education

Statements about college and the need for a college education to gain employment were disagreed with more strongly than statements about speech-related items. Stutterers feel very differently about job or career training and the need for a college education. They indicate that job specific training is more important to gain successful employment than a college education. It is possible that stutterers believed a college education

does not prepare one well enough for employment or as well as specific training. With career training, it is possible to enter certain occupational areas without attending college. This might explain why Kilmurry (1993) believed that popular occupational choices for stutterers include computing, writing, accounting, art and music.

Approval

Stutterers tended to disagree somewhat with items concerning need for approval of job type by others. This response tendency could be interpreted as an external locus of control and may be blocking the careers of stutterers. Stuttering severity and the attitudes and biases of others may prevent stutterers from participating in certain societal roles (Yorkston, Beukelman, & Bell, 1988). An external locus of control might be preventing stutterers from asserting themselves to access certain societal roles and jobs. This would lend support to the notion that stutterers could be held back by the attitudes and influences of others, and therefore, they could be underemployed as a whole. Although this may be occurring, they report that they are content with their current employment and would not seek alternate employment, regardless of verbal job requirements as indicated by the Speech and Employment construct. These counter-intuitive findings may be the case for some individuals but not others since the severity and manifestations of the disorder vary considerably and affect individuals differently.

In summary, powerful relationships exist between the Speech and Employment construct and general career beliefs constructs. Since stuttering is such an integral part of a stutterer's life, it was assumed that stutterers would feel more strongly about speech-related items than about all other career beliefs. The results indicate that this is not entirely the case, since four constructs revealed no significant difference and three revealed a difference in the opposite direction than predicted. Mean values for each of the constructs indicate the possibility of career facilitating beliefs (Speech & Employment, Work Ethic, Job Training, Openness, Job Experimentation, Motivation, Relocation, & Guidance) and career blocking beliefs (Indecision, College Education, & Approval).

CHAPTER 6
CONCLUSIONS

This study was designed to identify and analyze the general and speech-related career beliefs of pre- and post-treatment stutterers and non-stutterers. It was hoped that this study would provide information about the career beliefs of these three groups of adult males. Specifically, this study sought to determine if treated stutterers differed from non-stutterers and untreated stutterers in terms of their career beliefs. It was assumed that a difference between pre-treatment stutterers and treated stutterers could be attributed to indirect therapy effects and that differences existing between stutterers and non-stutterers could be ascribed to different learning and life experiences encountered by these two groups. This study also attempted to support the theory that stutterers make career decisions based on their attitudes about speaking and the verbal demands of occupations rather than on their general career beliefs. Identification of potentially career blocking beliefs may warrant further investigation by a qualified career counsellor.

Career beliefs of post-treatment stutterers did not differ significantly from pre-treatment stutterers or non-stutterers. One reason for no significant differences may have been small sample sizes. The small critical alpha levels set *a priori* as appropriate for repeated tests of differences using data from the same subjects were not believed to have resulted in fewer significant differences, because only one additional comparison (research question #2 comparing pre- and post-treatment stutterers responses to the Guidance construct) approached statistical significance with a critical alpha level of $\leq .05$.

These results indicate that the groups of participants in this study, pre-and post-treatment stutterers and non-stutterers, do not possess specific speech-related career beliefs that were suspected to act as barriers

to employment. The lack of difference between these groups does not allow one to infer similarity, rather it beckons further investigation as to why there were no differences. One can only speculate about reasons for the lack of difference. Treated stutterers generally believed that their speech did not influence their career path and that they were content with their current level of employment. The general and speech-related career beliefs of treated stutterers are generally considered career facilitating rather than career blocking. Conclusions regarding the need for specific therapy to directly address potentially career blocking beliefs that act as barriers to employment should be drawn cautiously, because career blocking beliefs for individuals may be lost in group means. Therefore, it is believed that the need for career counselling to address *career selection beliefs* should be determined on an individual basis.

Limitations of the Study

This study attempted to measure the effect stuttering has on career beliefs and the indirect effect of stuttering therapy on career beliefs. A discussion of general limitations of the study will be followed by a discussion of threats to internal validity and will evaluate whether the differences that were noted were a result of factors other than stuttering or type of career belief. A discussion of external validity will ensue to determine the extent to which the results can be generalized to other populations.

Internal Validity

Ventry and Schiavetti (1986) listed eight factors that could potentially jeopardize internal validity. Internal validity "indicates the degree to which the design has accomplished what it intended to accomplish within the confines of the specific investigation" (Ventry & Schiavetti, 1986, p. 75). The following discussion concerns potential threats to internal validity.

When effects that cannot definitively be attributed solely to experimental treatment, a history effect may be evident. It is unlikely that a single event took place at the time of questionnaire completion that would alter responses among the three groups. A history effect is not believed to have confounded the results of this study, since this study required one-time participation. Related to history is the effect of maturation.

Ventry and Schiavetti (1986) include the effect of maturation in their list of possible threats to internal validity. Maturation may confound studies that involve testing over a long time or multiple testing. Since this study required that subjects respond to the M-CBI on one occasion, it is believed that maturation is not a threat to internal validity.

The simple act of answering a questionnaire arguably may prime participants to respond in a certain manner and may therefore be considered a threat to internal validity. Additionally, the repetitive nature of most questionnaires may result in boredom and modified response patterns and therefore may confound the results. It is believed that subjects who took the time to complete and return this questionnaire were motivated to do so for reasons other than to please or appease the investigator. In addition, individuals who felt the questionnaire was boring would have been less likely to complete and return the M-CBI. Therefore, test-practice is not suspected to have influenced the validity of this study.

The environment in which the M-CBI was completed was not specified and therefore is not known. Had the questionnaire completion environment been specified and known, potential influences to responding, (e.g. distractions), might have been controlled. As such, the environment was not controlled by the experimenter and is considered a threat to internal validity.

The CBI was designed to evaluate the career beliefs of individuals. Validity of the CBI was established by Krumboltz (1991). The repetitive

nature of the CBI allows the questionnaire interpreter to evaluate the reliability of responding. The addition of speech related statements to the CBI to create the M-CBI was done in a manner consistent with the CBI construction. Added questions were pilot tested in an effort to establish face validity for the M-CBI. Although the CBI was not intended to be used in research to distinguish between groups of people it is not believed that such use posed a threat to the internal validity of this study.

Factor analysis was performed to determine which items were answered similarly and could be grouped together under one construct. It became apparent when deciding on construct labels, that although items were grouped together statistically, they were very difficult to group together under one concise label. Labels then reflect the 'best fit' rather than a complete embodiment of every item. It was encouraging to find M-CBI items #46 and #106 loading identical to the CBI subscale, Approval of Others. Although factor analysis was deemed necessary prior to performing subsequent data analysis, it did present a threat to validity of this study. Alton and Hagler (1994) reported that ideally factor analysis would be used to "analyze data from about ten times as many subjects as there are variables" (p. 195). Factor analysis is intended to be used with a much larger sample, and therefore, factor analyzed results from this study should be interpreted with caution. The small sample size on which factor analysis was performed easily influences results and undoubtedly alters the chances for replication of these findings. Therefore, these results should not be generalized to other populations; nor is it likely that similar results will be obtained should it ever be replicated.

Statistical regression, response shift toward the mean after repeated testing, is not considered a threat to internal validity, since this study required one-time participation. In other words, each subject was required

to complete the questionnaire once, meaning that statistical regression was not at play in this design.

Subject mortality refers to the differential loss of subjects between comparison groups. Studies that involve repeated measures such as longitudinal studies are threatened by subject mortality, since the number of subjects who began the study may decrease differentially between groups. Subject mortality is not considered a threat to internal validity in this study because it did not involve repeated measures testing.

The Hawthorne effect refers to changes in subject behavior that are a result of subjects' knowledge about participation in the study (Ventry & Schiavetti, 1986). The Hawthorne effect also poses a threat to the internal validity of this study. It is possible that stutterers responded to the statements not in terms of how they were feeling but rather in terms of how they believed they should be responding. They may have been responding in a manner intended to reveal more favourable speech-related career beliefs than they actually had. Therefore, these results may not reflect actual speech-related career beliefs and may be considered a threat to the internal validity of this study. It should be noted however, that this type of validity threat exists for all response based studies. It is believed that the validity threat is no greater than for any other study and the results can be accepted as such.

Internal validity may be threatened by interaction between factors. For instance, the Hawthorne effect may have altered response patterns that would have affected the results of factor analysis. Future studies should attempt to eliminate the number of potential threats to internal validity thereby reducing the number of potential interactions among factors.

In summary, possible threats to internal validity were limited to environment, the Hawthorne effect, factor analysis, and interactions among these factors. Statistical regression, subject selection, subject mortality,

history, maturation, test-practice and instrumentation were not believed to have threatened the internal validity of this study. Future career beliefs research should attempt to compensate for possible threats to internal validity.

External Validity

Generalizability of results to other subjects and other populations is affected by external validity. Ventry and Schiavetti (1986) outlined and discussed four factors that could potentially jeopardize external validity.

Ventry and Schiavetti (1986) discuss subject selection as a threat to external validity. Subject selection poses a threat to external validity when subjects may not be considered representative of the population from which they were selected. This study began with 400 potential subjects. Only 18.3% (n=70) of the potential subjects returned a completed response form. It was hoped that endorsement from both the ISTAR executive and clinical directors would result in a higher response rate for stutterers, anticipated to be between 30% and 40%. Group response rates were as follows: experimental group 21.3% (n=40), control group 66.7% (n=4), and comparison group 13.9% (n=27). There is some question as to whether the participants are representative of their respective populations in ways that are important to the study. It is impossible to know how the subjects who responded differed from those who did not respond and the significance of such differences to the interpretation of results. Subject selection is believed to pose a threat to external validity, therefore, conclusions drawn from this study can only be applied to these participants and cannot be generalized to other populations.

Reasons for the unanticipated low return rate from the group of stutterers can only be speculated. Since the staff at ISTAR continually conduct research, clients frequently receive mail from ISTAR regarding current research and requesting participation in ongoing studies. It is

possible that the response rate from this typically highly motivated group was low, because the numbers of compliant participants have been depleted. If this were indeed the case, fewer stutterers would have asked a non-stuttering peer to participate, thereby reducing the number of possible subjects in the comparison group. It is also possible that the M-CBI took too long to complete, was boring, or was too repetitive, and potential subjects did not find completion and return of the response form worthy of their time. Despite lower than expected response rates, it was decided to perform data analysis on all completed response forms. Regardless of reasons for the lower than anticipated response rates, conclusions derived from the results should be guarded at best, since the sample size is limited and smaller than anticipated.

Interactive or reactive effects of pretesting are also considered a threat to external validity. The protocol for this study did not include pretesting, therefore this effect did not apply to this study.

Ventry and Schiavetti (1986) included reactive arrangements in their list of potential threats to external validity. Reactive arrangements concern the degree to which the environment may affect the dependent variable and be accountable for experimental or treatment effects. Since the environment was not specified, this factor is not believed to be a threat to external validity.

The final threat to external validity described by Ventry and Schiavetti (1986) is multiple-treatment interference. Since treatment was not conducted in this study, this threat to external validity did not apply to this study.

In summary, subject selection and sample size are believed to have threatened external validity and therefore generalizability of the results of this study. Other stutterers who have received treatment at ISTAR or elsewhere may not show similar results.

Future research in the area of career beliefs should attempt to control for threats to internal and external validity. Studies controlling for these factors improve the confidence with which one can draw conclusions and make generalizations to other populations.

Implications for Future Studies

This study was unique in that it sought to determine if the career beliefs of a specific disabled group, stutterers, differed from the non-disabled population. Career beliefs are beliefs about oneself and one's relation to the world based on past learning experiences. Individuals are unique and therefore the experiences they have and the amount of learning derived from those experiences differs among people and among groups of people. It is believed that the subjects who participated in this study constituted a unique subgroup of the original group, and therefore, the results can not be broadly applied to the general stuttering population. It is also believed that, due to the limitations of this study, further replication is warranted to support or refute these conclusions. The indirect effects of stuttering therapy need to be assessed systematically. A longitudinal study examining career beliefs pre-treatment, immediately post-treatment and at given intervals thereafter might better illustrate the indirect effect of stuttering therapy on career beliefs and the need to directly address career beliefs in this population. A related study should determine if the career beliefs of other communicatively disabled groups differ from the general population. It has been said that disabled individuals experience barriers within their careers. Therefore, studies examining the career beliefs of other disabled populations as they compare to the non-disabled population seem warranted to determine if the barriers are a result of career blocking beliefs or other unknown factors.

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Appendix A
Permissions Agreement for Modification of Career Beliefs Inventory

Consulting Psychologists Press, Inc.

Angelika Forbrich
Department of Speech Pathology and Audiology
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2-70 Corbett Hall
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Appendix A continued

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CONSULTING PSYCHOLOGISTS PRESS

By Angela Howe
Angela Howe - Permissions Editor

Date 4/24/95

I AGREE TO THE ABOVE CONDITIONS

By Angelika Forbrich
Angelika Forbrich

Date Jan 06/95

Appendix B
Modified Career Beliefs Inventory

1	2	3	4	5
STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE

1. Once I make a career decision, I will stick to it.
2. Only I can say what work is best for me.
3~. If another company were to offer me a job with more speech demands than my current job, I would accept it.
4. Everything depends on my making the right career choice now.
5. I aim for the top in everything I do even if I sometimes fail.
6. I want to become like a particular person I know.
7~. I would not attempt to seek a promotion for a new job whose duties require more speaking than those in my present job.
8. If I spend a great deal of time and energy doing one kind of work, I would not change to another later.
9. I can succeed in whatever occupation I like.
10. If I were to attend school for job training, I'd pick the school that made it easiest to get in.
11. I want to do better work than other people in my group.
12. I would like to take some tests that would tell me what kind of work I should do.
13. If I were to train for one kind of work and later found that I didn't like it, I would still feel good about what I'd learned.
14. If I told people the real reasons for my career plans, they would make fun of me.
15. I know what kind of work I want to do.
16~. I'll never get into the work I'd like because of my fear of speaking.
17. No one can stop me from doing the kind of work I want to do.
18. If I really tried hard to succeed but still failed, I would feel bad that I had wasted my energy.
19. There are some parts of the country where I would never move even if I'd received a terrific job offer there.
20~. I have difficulty discussing my speech problem at work.
21. I don't compare my personal qualities with those of people who are employed in different occupations.
22~. I'll never be as competent at any job as a fluent person.
23. If I am unable to work in the occupation of my choice, I'm sure that I could find something else just as good.
24. I can't get into the work I'd like because there are too few opportunities.

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Appendix B continued

1 STRONGLY DISAGREE	2 DISAGREE	3 UNCERTAIN	4 AGREE	5 STRONGLY AGREE

25~. I am happily employed at my current position.

26. Getting a college education is necessary to get a good job.

27. It's perfectly reasonable that, at this time in my life, I might not know what kind of work I want to do.

28. When my career goal is unclear, I don't try very hard at what I'm doing.

29~. If I were offered a job that required a lot of speaking, I would not accept it.

30. I am not now employed.

31. When I have a career problem, I like to take action to solve it.

32. I can't do the kind of work I want because I lack a required skill.

33~. My speech problem limits the jobs I feel I can perform adequately.

34. I continually strive to improve my performance.

35~. I would like to look for another job at a different company, but my speech problems prohibit this.

36. My work activities must be interesting to me.

37. I can start working at one kind of job and then change to some other work.

38. I don't compare my competence with that of any ideal person.

39. It's important that I do the kind of work for which I was trained.

40. Everyone in the occupation I like has to perform the same duties.

41. If I don't find the best career for me, I'll be terribly upset.

42. I need to work in an occupation that I'm good at even if I don't like it very much.

43. I don't think any job would be right for me.

44. Within any given occupation there is a wide range of talents and personalities.

45~. There is nothing that would prevent me from taking a job I like.

46. If the people who are important to me disapprove of the work I've chosen, it would not matter to me.

47. There are no jobs that can satisfy me.

48. I'd like to work in a certain occupation, but I couldn't stand the training required for it.

49. I am content to maintain my present level of skill.

50~. I don't intend to look for a job with another company.

51. A given college could be right for one person but wrong for someone else.

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Appendix B continued

1 STRONGLY DISAGREE	2 DISAGREE	3 UNCERTAIN	4 AGREE	5 STRONGLY AGREE

52. I can be perfectly open with others about the reasons for my career choices.

53. I would accept a good job offer even if I had to uproot and start a new life elsewhere.

54. I need to know how to perform a job before I accept it.

55~. I would not accept a highly public job if it were offered to me.

56. I would refuse a good job offer if it required me to move away from my friends or relatives.

57. When my career goal is unclear, I still continue working to the best of my ability anyway.

58. It doesn't matter if I make a poor career choice now because I can always make a change later.

59. Other people can prevent me from entering the kind of work I like.

60~. A highly verbal job appeals to me more than a job with fewer verbal demands.

61. If I really tried hard to succeed but still failed, I would feel good that I had tried my best.

62. To avoid the risk of failure, I set low goals for myself.

63~. If I were offered a job with another company, I would decline it because of my speech problems.

64. I am satisfied with my current level of performance.

65. I don't mind telling people the real reasons for my career plans.

66~. I would choose a job that requires less speaking over a job that requires more speaking.

67. At this time in my life I should know what kind of work I want to do.

68. No matter what past experience I've had, I would be willing to change to some other kind of work.

69. If I didn't like my job, I'd try to change the conditions that were making me unhappy.

70. I am currently employed at least part time.

71. The location of my job is not important to me.

72. I could accept boring work if it permitted me to enjoy my leisure time after work.

73. If I fail, I feel better knowing that I had not tried very hard.

74. I don't have what it takes to be successful in the kind of work I like.

75. An employment agency or placement service would be able to find a good job for me.

76~. I am unhappy with my current job.

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Appendix B continued

1 STRONGLY DISAGREE	2 DISAGREE	3 UNCERTAIN	4 AGREE	5 STRONGLY AGREE

77. Tests can't tell me what kind of work I should do.

78. I could be happy working at any one of a number of different jobs.

79. The kind of job I start with will determine what I am able to do next.

80~. My fluency has no bearing on how well I perform at my job.

81. I hate to have someone supervise my work.

82. I have more desirable qualities than at least one person who's employed in an occupation I like.

83. So many people are competing for so few jobs that it's no use for me even to try to get one.

84. On any job that I take I'll have to do the work in the way the boss tells me to.

85. I want to show others that I am the best at whatever work I do.

86. One can get a good job without a college education.

87. I can learn whatever skills are required to get the kind of work I want.

88. I want someone to tell me what work is best for me.

89. I'm afraid I could never become as competent as a certain person I admire.

90. I am working to develop my skills to the best of my ability.

91. If one career choice does not work out well, it won't bother me because I'll just try something else.

92~. I find less social jobs appealing.

93. People have successful careers because of their hard work, persistence and good judgment.

94. Other people could persuade me to change my career direction.

95. I'm sure I can find good job opportunities when I need them.

96~. At work, I can speak freely about my speech problem.

97. I know I can find or create a job I like.

98~. My fear of speaking will not influence my choice of job.

99. I'd feel terrible if I spent years preparing for one kind of work and then later found that I didn't like it.

100. I don't know anyone who is the ideal person I want to be.

101. People in a given occupation are all pretty much alike.

102. I would search out all the facts-both good and bad-about an occupation before I decided to enter it.

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Appendix B continued

1	2	3	4	5
STRONGLY DISAGREE	DISAGREE	UNCERTAIN	AGREE	STRONGLY AGREE

103. I know why I'm making my career choices but prefer not to disclose them to anyone.

104~. I would apply for a position at my company that requires more speaking than my current job.

105. If I were offered a good job that I didn't know how to perform, I'd accept it anyway and learn on the job.

106. I want the people who are important to me to approve of the kind of work I do.

107. College students should major in the subject they find most interesting even if they don't get their best grades there.

108~. In any job I can perform as well as a fluent person.

109. I am undecided about the kind of work I want to do.

110. The training required for an occupation is part of what I'd enjoy.

111. I need to be able to choose my own work hours if I'm going to do my best work.

112. One college is basically the same as any other.

113. When I have a career problem, I like to wait and hope it will solve itself.

114. If I needed a good job, I'd be willing to travel anywhere in the country to get it.

115~. My speech problem does not limit job opportunities available to me.

116. If I were to attend school for job training, I'd pick the school that offered the best training.

117~. If I were offered a promotion I would decline it because of my speech problem.

118. I could accept a new job offer even if I had been trained for a completely different kind of work.

119. I'll never get into the work I'd like because of the type of person I am.

120. I need to enjoy my work even if I'm not very good at it.

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Appendix C
Face Validity - Survey to Professionals

I am doing a study titled "Career Beliefs of Adult Male Stutterers". The tool for my study is the Modified Career Beliefs Inventory (M-CBI) which is composed of 120 statements. The participants in this study will be asked to respond to statements on a 5-point Likert-type scale (strongly disagree to strongly agree).

The 20 statements on the following page have been organized into 4 headings dealing with communication-related constructs that may have an impact on employment.

Please read the statements and answer the following questions. Your editorial suggestions will be appreciated and may be written directly on the statements. Your comments improve the validity of this study.

1. Each statement is paired with another. Does each member of the pair address the same issue?

2. Do the statements logically belong under their current headings?

3. Do you feel that the 4 headings represent 4 different constructs?

Appendix C continued

VERBAL JOB REQUIREMENTS

16~. I'll never get into the work I'd like because of my fear of speaking.
98~. Fear of speaking will not influence my choice of job.

29~. If I were offered a job that required a lot of speaking, I would not accept it.
115~. My speech limits the I would accept.

66~. I would choose a job that requires less speaking over a job that requires more speaking.
60~. The amount of speaking I am required to do in a job does not affect my consideration of that job.

07~. I would not accept a position with my current employer if it required more speaking.
104~. I would take a position at my present place of employment if it required more speaking.

117~. I would decline a position requiring a lot of speaking.
03~. If offered a position requiring a lot of speaking I would accept it.

PERCEIVED OCCUPATIONAL COMPETENCY

22~. My speech will always prevent me from performing well at any job.
80~. My speech has no bearing on how well I perform at any job.

55~. I would not do well at a job that requires a lot of speaking.
92~. I can perform well at a job that requires a lot of speaking.

33~. My speech limits the jobs I feel I can perform adequately.
108~. My speech does not affect my job performance.

OPENNESS

20~. It is extremely difficult for me to discuss my speaking skills at work.
96~. At work, I can talk openly about my speaking skills.

45~. How I speak is not something I discuss at work.
63~. At work, I can talk about how I speak.

HAPPINESS IN CURRENT JOB/POSITION

25~. I am happy with my current employment.
76~. I am unhappy with my current job.

50~. At present, I don't intend to look for a job with another employer.
35~. I would like to look for a job with another employer.

Appendix D
Face Validity - Survey to Females who Stutter

I am doing a study titled "Career Beliefs of Adult Male Stutterers". My study requires that a group of male stutterers respond to some statements. These statements are designed to look at the impact of stuttering on employment.

I would appreciate it if you could read the statements on the next page and answer the following questions. Your responses will help make my study better by clarifying confusing statements and by weeding out inapplicable statements.

1. Please comment on the wording for **each** statement.
   Is the statement confusing? If so, please rewrite that statement so that you can understand it.

2. Beside each statement, please write "yes" or "no" to indicate if that statement is applicable to you.

Appendix D continued

VERBAL JOB REQUIREMENTS

16~. I'll never get into the work I'd like because of my fear of speaking.
98~. Fear of speaking will not influence my choice of job.

29~. If I were offered a job that required a lot of speaking, I would not accept it.
115~. My speech limits the I would accept.

66~. I would choose a job that requires less speaking over a job that requires more speaking.
60~. The amount of speaking I am required to do in a job does not affect my consideration of that job.

07~. I would not accept a position with my current employer if it required more speaking.
104~. I would take a position at my present place of employment if it required more speaking.

117~. I would decline a position requiring a lot of speaking.
03~. If offered a position requiring a lot of speaking I would accept it.

PERCEIVED OCCUPATIONAL COMPETENCY

22~. My speech will always prevent me from performing well at any job.
80~. My speech has no bearing on how well I perform at any job.

55~. I would not do well at a job that requires a lot of speaking.
92~. I can perform well at a job that requires a lot of speaking.

33~. My speech limits the jobs I feel I can perform adequately.
108~. My speech does not affect my job performance.

OPENNESS

20~. It is extremely difficult for me to discuss my speaking skills at work.
96~. At work, I can talk openly about my speaking skills.

45~. How I speak is not something I discuss at work.
63~. At work, I can talk about how I speak.

HAPPINESS IN CURRENT JOB/POSITION

25~. I am happy with my current employment.
76~. I am unhappy with my current job.

50~. At present, I don't intend to look for a job with another employer.
35~. I would like to look for a job with another employer.

Appendix E
Cover Letter from ISTAR Clinical and Executive Directors

{DATE}

Dear {CLIENT},

Re: 'Career Beliefs of Adult Males Who Stutter' research project (enclosures)

One of the objectives of the Institute is to promote and nurture research into the nature and treatment of stuttering.

Angelika Forbrich, a graduate student in the Department of Speech Pathology and Audiology, has approached us with a proposal to investigate possible relationships between stuttering and career beliefs.

Although you are under no obligation to participate, we strongly support her investigation and hope that you will be willing to assist with this important topic.

Thank you for your support.

_____
Einer Boberg, PhD
Executive Director

_____
Deborah Kully, MSc
Clinical Director

Appendix F
Letter to ISTAR Clients

Angelika Forbrich, B.Sc., S-LP(C)
2-70 Corbett Hall, University of Alberta
Edmonton, AB T6G 2G4

{DATE}

Dear {Client Name},

Re: 'Career Beliefs of Adult Males Who Stutter' research project

My name is Angelika Forbrich. I am a graduate student in the Department of Speech Pathology and Audiology at the University of Alberta. I am writing to invite you to participate in the above study. The information gained from this study will be used in a thesis.

I want to examine the career beliefs people who stutter to see if there are potential barriers to employment and career advancement opportunities. I am also interested in determining if the career beliefs people who stutter differ from the career beliefs of non-stutterers. I believe that the results from this study will be important to speech pathologists and people who stutter.

The Institute for Stuttering Treatment and Research has agreed to support this research. Should you have any questions about my research you may contact me through ISTAR at 492-2619 or at the University of Alberta 492-5990.

I have enclosed 2 questionnaires. Since I am interested in determining if the career beliefs of people who stutter differ from non-stutterers, I also need answers from a non-stuttering male friend similar in age to yourself. Therefore, I would appreciate it if you would complete one questionnaire and ask a non-stuttering male friend to complete the other one.

I estimate that the questionnaire will take 30 to 45 minutes to complete. You may take a break and complete it in several sittings. Please use a dark HB pencil to fill in your response next to the corresponding number on the blue page. If you are unable to respond to a statement or feel it does not apply to you, please indicate this by filling in **two** circles next to the corresponding statement number. This lets me know that this statement was not accidentally skipped but that it does not apply to you.

You may notice that the blue answer sheet has an identification number filled out. I am the only one who will know your identity. Your responses will be made anonymously and you will not be identified in any way other than an ID number. Your return of the completed score sheet, will be taken as your consent to participate. Should you decide not to participate or to withdraw later, be assured that you may do so without any consequences or ill will.

Your answer sheet will be kept on file to be used in future research. If you do **not** wish to have your responses included in future studies, please indicate this by filling in the (1) circle under special codes letter "P". Once you have completed the questionnaire, fold it once and mail it in the postage paid envelope provided. You may keep the rest of the package, letters and questionnaire, for your information.

I would like to thank you for participating in this study. Your assistance will help us to understand more about stuttering. A summary of my completed study will be left at ISTAR.

Yours sincerely,

Angelika Forbrich, B.Sc, S-LP(C)
Graduate Student

Appendix G
Letter to Non-stuttering Friends

Angelika Forbrich, B.Sc., S-LP(C)
2-70 Corbett Hall, University of Alberta
Edmonton, AB T6G 2G4

(DATE)

Dear Sir,

Re: 'Career Beliefs of Adult Males Who Stutter' research project

My name is Angelika Forbrich. I am a graduate student in the Department of Speech Pathology and Audiology at the University of Alberta. I have asked your friend to invite you to participate in the above study. The information gained from this study will be used in a thesis.

I want to examine the career beliefs people who stutter to see if there are potential barriers to employment and career advancement opportunities. I am also interested in determining if career beliefs of people who stutter differ from career beliefs held by non-stutterers. I believe that the results from this study will be important to speech pathologists and people who stutter.

Your participation as a non-stutterer is important to determine if the career beliefs of people who stutter differ from those of non-stutterers. You have been given a questionnaire and an answer sheet. The questionnaire will take 30 to 45 minutes to complete. You may take a break and complete it in several sittings. Please use a dark HB pencil to fill in your answer next to the corresponding number on the blue page. If you are unable to respond to a statement or feel it does not apply to you, please indicate this by filling in **two** circles next to the corresponding statement number. This lets me know that this statement was not accidentally skipped but that it does not apply to you.

You may notice an identification number on the blue answer sheet. This identification number will help me match your scores with those of your friend. Your responses will be made anonymously and you will not be identified in any way other than an ID number. Once you have completed the questionnaire, fold it once and mail it in the envelope provided. Keep this letter and the questionnaire for your information. If you return the completed score sheet, I will consider that as your consent to participate in this study. Should you decide not to participate or to withdraw later, be assured that you may do so without any consequences or ill will.

Your responses will be kept on file to be used in future research that has yet to be determined. If you do **not** wish to have your responses used in future studies, please indicate this by filling in the (1) circle under special codes letter "P".

I would like to thank you for participating in this research study. Your assistance will help us to understand more about stuttering. If you are interested in the results of my study, I will leave a copy of my findings at the Institute for Stuttering Treatment and Research and at the Department of Speech Pathology and Audiology at the University of Alberta.

Yours sincerely,

Angelika Forbrich, B.Sc., S-LP(C)
Graduate Student

Appendix H
Follow-up Letter

Angelika Forbrich, B.Sc., S-LP(C)
2-70 Corbett Hall, University of Alberta
Edmonton, AB T6G 2G4

{DATE}

Dear {Client Name}

Re: 'Career Beliefs of Adult Males Who Stutter' research project

You may recall that you received a questionnaire about career beliefs in the mail a few weeks ago. If you want to participate in this study but have not yet had time to do so, please return the completed questionnaire as soon as possible. If you have already done so and your answer sheet is in the mail, please accept my thanks.

Should questions or concerns arise regarding the study please feel free to contact me at (403) 492-5990 or (403) 492-2619.

Yours sincerely,

_____
Angelika Forbrich, B.Sc., S-LP(C)
Graduate Student